

## Reviewer Comments for Manuscript (#103231):

Overall, the manuscript is interesting about Seedless *Leucaena* KX4-Hawaii hybrid, that was registered and published in 2013. The Manuscript is well written, However, I have few comments:

-In terms of cut everything at 30 cm height *every 4 months*, which is called “Pollarding Frequency” there are different questions need to be answered:

1. how many sprouts and shoots grow after each pollarding?
2. how do the author quantify the biomass?
3. how do the author determine green vs woody biomass (i.e. shoots or branches that are 5 mm and less, can be considered as green fresh biomass, while more than 5 mm considered woody biomass).

- Identify correctly and clearly what is the origin of KX4?

KX4-Hawaii hybrid is:

*L. leucocephala* 'K636' x *L. esculenta* 'K838' (Brewbaker 2013)

-Explain with more details the correlation between the biomass production and other parameter.

-Add the following references that strongly related to this work:

Brewbaker J 2016. Breeding *Leucaena*: tropical multipurpose leguminous tree. *Plant Breed Rev* 40:43-121.

Youkhana, A. and Idol, T. (2009): Tree pruning mulch increases soil C and N in a shaded coffee agroecosystem in Hawaii. *Soil Biology and Biochemistry* 41(12): 2527-2534. <http://dx.doi.org/10.1016/j.soilbio.2009.09.011>.

Youkhana, A. & Idol, T. (2008): First-year biomass production and soil improvement in young *Leucaena* and *Robinia* stands under different pollarding systems. *Journal of Tropical Forest Science* 20(3): 181-187.

Youkhana, A. and Idol, T. (2016): *Leucaena* mulch addition increase growth, yield and soil C and N in a managed full-sun coffee system in Hawaii. *Agroforestry Systems* 90 (2): 325-337.

-Youkhana, A. and Idol, T. (2018): Chapter 22: Cut-and-carry for sustaining productivity and carbon sequestration in agroforestry system: Coffee-*Leucaena* example. In: Dagar J., Tewari V. (eds) *Agroforestry*. Springer, Singapore.

-To be clear, you need a Table showing the biomass of each pollarding and each distance, then scale that annually scale as Mg/ha/year of biomass production.

Line 55: Add this with citation:

, and application of pruned biomass as mulch (Kang et al. 1999, Youkhana & Idol 2009)

Line 59-60:

Line 65: Change ‘biomass transfer system’ to “cut and carry system” and add (Youkhana and Idol, 2018) as a citation.

Line 81: Add (Youkhana and Idol, 2009):

Biomass is applied to the soil as a mulch (Kang et al. 1999, Youkhana and Idol, 2009).

Line 85: Add (Youkhana and Idol, 2016) :